**SARDAR VALLABHBHAI PATEL INSTITUTE OF TECHNOLOGY, VASAD**

**INFORMATION TECHNOLOGY DEPARTMENT**

**SYLLABUS**

**SUB:COMPUTER GRAPHICS (2160703)**

**UNIT 1: BASICS OF COMPUTER GRAPHICS**

Basics of computer graphics, applications of computer graphics, display devices, random and raster scan system, graphics input devices, graphics software and standards

**UNIT 2: GRAPHICS PRIMITIVES**

Points, lines ,circles and ellipse as primitives, scan conversion algorithm for primitives, fill area primitives including scan line polygon filling, inside-outside test, boundary and floodfill, character generation, line attributes, area fill attributes, character attributes

**UNIT 3: 2D TRANSFORMATION AND VIEWING**

Transformation (Translation, Rotation, Scaling), Matrix representation, homogeneous coordinates, composite transformation, reflection and shearing, viewing pipeline and coordinates system, window-to-viewport transformation, clipping including point clipping, line clipping(cohen-sutherland, liang-bersky, NLN),polygon clipping

**UNIT 5: 3D TRANSFORMATION AND VIEWING**

3D scaling, rotation and translation, composite transformation, viewing pipeline and coordinates, parallel transformation.

Gargi Chauhan

Course coordinator